

WHAT IS CLAIMED IS:

- 1 1. A switched current steering device comprising:
 - 2 an actual switch coupled to receive an input signal sequence that indicates set of
 - 3 state transitions associated with the actual switch;
 - 4 a dummy switch coupled to receive a dummy signal sequence that indicates a
 - 5 set of state transitions associated with the dummy switch, the dummy signal sequence
 - 6 indicating state transitions that are mutually exclusive of state transitions indicated by
 - 7 the input signal sequence.
- 1 2. The switched current steering device of claim 1, further comprising an activation
- 2 unit having an input coupled to receive the input signal sequence and an output coupled
- 3 to provide the dummy signal sequence to the dummy switch.
- 1 3. The switched current steering device of claim 1, further comprising an activation
- 2 unit coupled to receive a next state of the actual switch, a present state of the actual
- 3 switch, and a present state of the dummy switch, and coupled to provide the dummy
- 4 signal to the dummy switch.
- 1 4. The switched current steering device of claim 1, further comprising:
 - 2 a first current source coupled to the actual switch; and
 - 3 a second current source coupled to the dummy switch,
 - 4 wherein the second current source provides a different amount of current than
 - 5 the first current source.
- 1 5. The switched current steering device of claim 1, further comprising:
 - 2 a first current source coupled to the actual switch; and
 - 3 a second current source coupled to the dummy switch,
 - 4 wherein the second current source provides less current than the first current
 - 5 source.
- 1 6. The switched current steering device of claim 1, wherein the actual switch and
- 2 the dummy switch form a portion of a Digital to Analog converter.

1 7. A switched current steering device comprising:
2 a plurality of actual switches coupled to receive an input signal sequence that
3 indicates set of state transitions associated with the plurality of actual switches;
4 a plurality of dummy switches coupled to receive a dummy signal sequence that
5 indicates a set of state transitions associated with the plurality of dummy switches, the
6 dummy signal sequence indicating state transitions that are mutually exclusive of state
7 transitions indicated by the input signal sequence.

1 8. The switched current steering device of claim 7, wherein the number of dummy
2 switches equals the number of actual switches.

1 9. The switched current steering device of claim 7, further comprising a switch
2 activation unit coupled to receive the input signal sequence and coupled to provide the
3 dummy signal sequence to the plurality of dummy switches.

1 10. The switched current steering device of claim 7, further comprising a switch
2 activation unit coupled to receive a set of next states corresponding to the plurality of
3 actual switches, a set of present states corresponding to the plurality of actual switches,
4 and a set of present states corresponding to the plurality of dummy switches, and
5 further coupled to provide the dummy signal sequence to the plurality of dummy
6 switches.

1 11. The switched current steering device of claim 7, further comprising an activation
2 unit corresponding to each dummy switch, each activation unit coupled to receive a
3 signal within the input signal sequence and coupled to provide a signal within the
4 dummy signal sequence to its corresponding dummy switch.

1 12. The switched current steering device of claim 7, further comprising an activation
2 unit corresponding to each dummy switch, each activation unit coupled to receive a next
3 state of an actual switch, a present state of an actual switch, and a present state of its
4 corresponding dummy switch, and further coupled to provide a signal within the dummy
5 signal sequence to its corresponding dummy switch.

1 13. The switched current steering device of claim 7, further comprising:
2 a first current source coupled to an actual switch within the plurality of actual
3 switches; and
4 a second current source coupled to a dummy switch within the plurality of dummy
5 switches,
6 wherein the second current source provides a different amount of current than
7 the first current source.

1 14. The switched current steering device of claim 7, further comprising:
2 a first current source coupled to the an actual switch within the plurality of actual
3 switches; and
4 a second current source coupled to a dummy switch within the plurality of dummy
5 switches,
6 wherein the second current source provides less current than the first current
7 source.

1 15. The switched current steering device of claim 7, wherein the plurality of actual
2 switches and the plurality of dummy switches form a portion of a Digital to Analog
3 converter.

1 16. In a switched current steering device that includes a plurality of actual switches
2 and a plurality of dummy switches, a method for reducing noise comprising the step of
3 maintaining a number of actual switch state transitions plus a number of dummy switch
4 state transitions constant during device operation.

1 17. The method of claim 16, further comprising the steps of:
2 providing the actual switches with a first operating current; and
3 providing the dummy switches with a second operating current that is different
4 from the first operating current.

1 18. The method of claim 16, further comprising the steps of:
2 providing the actual switches with a first operating current; and
3 providing the dummy switches with a second operating current that is less than
4 the first operating current.

1 19. The method of claim 16, wherein a total switching power corresponding to the
2 number of actual switches plus the number of dummy switches remains essentially
3 constant during device operation.

1 20. In a switched current steering device that includes a set of actual switches and a
2 set of dummy switches corresponding to the set of actual switches, a method for
3 reducing noise comprising the steps of:

4 determining whether an actual switch will change state during a next switching
5 cycle; and

6 changing a state of a dummy switch during the next switching cycle in the event
7 that the state of the actual switch will remain unchanged during the next switching cycle.

1 21. The method of claim 20, further comprising the step of maintaining a total
2 switching power corresponding to a number of actual switches plus a number of dummy
3 switches at an essentially constant level during device operation.